

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
4 January 2001 (04.01.2001)

PCT

(10) International Publication Number
WO 01/00052 A1

(51) International Patent Classification⁷: A41D 19/015. (74) Agent: STENGLNÉ HORVÁTH, Ágnes; Ügyvédi Iroda Munkácsy M. u. 9., H-7621 Pécs (HU).

(21) International Application Number: PCT/HU00/00057 (81) Designated States (*national*): DE, GD, JP, SE, US.

(22) International Filing Date: 20 June 2000 (20.06.2000) (84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
P 9902125 23 June 1999 (23.06.1999) HU

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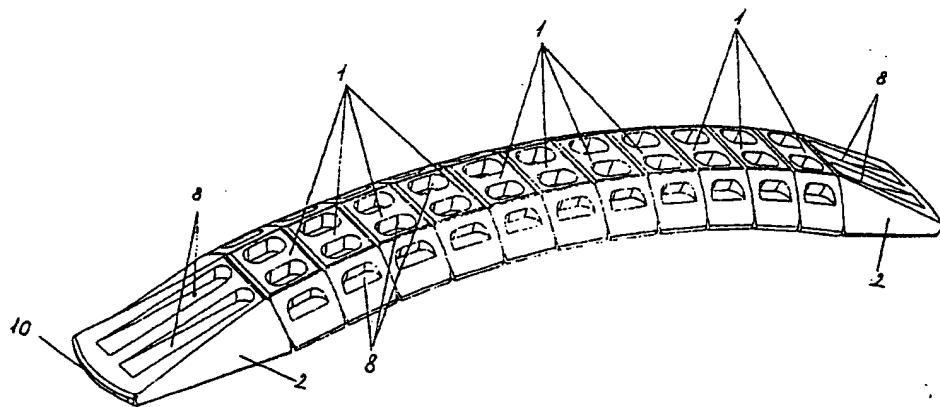
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Published:

- *With international search report.*
- *Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FINGER-PROTECTING GLOVE-PAD, ESPECIALLY FOR GOALKEEPER-GLOVES



WO 01/00052 A1

(57) Abstract: The subject of the present invention is a finger-protecting glove-pad, especially for goalkeepers' gloves, which is a protecting strap fitted to the joints of the fingers, suitable for bending to one direction by bending the fingers, comprising of elements (1) and closing elements (2), formed to fit the shape of the fingers, strung on a flexible bearing material (10) which is an elongation-free and strong tape (10a) or wire, and the said elements (1) have internal slots (5) and lightening holes (8) and the connecting walls (4) of the said elements are convergent downwards, with the lower side (3) of the said elements formed in a hollow way to seat on the fingers, and the shape of said closing elements (2) is formed to fit on the fingers, flattened on the ends, equipped with lightening holes (8) and internal slots (5), and wherein the flexible bearing material (10) fixes the elements (1) and the closing elements (2) in a state pressed to one another, and wherein the said tape is fixed and abut endless in the closing elements (2).

FINGER-PROTECTING GLOVE-PAD, ESPECIALLY FOR GOALKEEPER-GLOVES

FIELD OF THE INVENTION

The subject of the present invention is a finger-protecting glove-pad, especially for goalkeepers-gloves, which is a protecting strap fitted to the joints of the fingers, suitable for bending to one direction by bending the fingers. The finger-protecting glove pad is fitted into the upper part of the goalkeeper-glove's finger sheaths and fixed to the inside of the glove. The finger-protecting pad placed into the goalkeeper-glove protects the goalkeeper's fingers from injuries, bending back, and potential fractures as a result of powers originating from catching balls of greater speed. At the same time the glove-pad allows the user to move the hands freely and easily. In addition to goalkeeper-gloves, the said finger-protecting glove-pad can be fitted into other gloves used in sports of different type.

BACKGROUND OF THE INVENTION

Presently the goalkeeper- and sports-gloves known and commercially sold are made mainly for non-professional sportsmen, thus such gloves are not equipped with reinforcements suitable for protecting effectively accidents of finger-injuries. The ones that have reinforcements are prepared with pads or reinforcements made of textile, leather or plastic, placed on the upper (metacarpus) part of the hand in order to protect the hand from injuries. However, such protection is inadequate, not preventing the injuries of the hand caused by bending back or fracturing the fingers.

The development of professional sports raise serious demands the producers of sports clothes and sports equipment have to meet. Consequently, the producers of goalkeeper- and sports-gloves work on developing safe gloves that can prevent injuries in the professional sports events of football and handball. The goalkeeper-glove sold commercially by the ADIDAS company has protecting pads in the finger sheets to prevent the bending back of the fingers. The said above finger-protecting pad consists of two parts, one being a convex-shaped plastic strap with cut-offs, and into the said cut-

offs, on the hollow side of the strap, the ribs of another plastic strap are fitted. The ribs fitted into the cut-offs allow the protecting pad to bend to the direction of the palm, but prevent bending to the other direction. The protecting pad is put into the finger sheaths of the glove in the upper part of the hand, including the index finger, the middle finger, the third finger and the little finger. The length of the protecting pads depend on the size of the glove, extending from the medium section of the upper part of the hand to the ends of the fingers.

Such finger-protecting pads can prevent the injury of the sportsmen's fingers caused by bending back, in case of moderate forces, however, a greater impact can bend the protecting pad back and the protecting pad can be broken, thus not protecting the hand of the sportsman effectively. Although the apparatus itself is flexible, the material used is rigid and not flexible, and – placed into the finger sheaths – it hinders the movement of the hand and the fingers, insecuring the ability of the goalkeeper to catch the ball. Those who wear gloves with such protecting pads cannot move the hands and fingers freely. Another disadvantage of such gloves is that the plastic parts at the point of finger-bending break after a short time due to fatigue caused by the series of bending, making the glove inappropriate for the designed function.

The patent specification No. WO 98/48653 describes a protecting glove ergonomically designed for ice-hockey players, with a segmented protecting plate on the upper part of the glove. The segments of the protecting plate are made of plastic and are stuck on a flexible textile put onto the upper part of the sports glove. Practically, it consists of three segments, the finger protecting segment, the hand (metacarpus) protecting segment and the wrist protecting segment, the above said segments being segmented, too, in line with the anatomical construction of the hand. The segments have trapeziform longitudinal cross-section. The design described in the patent specification is only suited to the making of hockey-gloves as the plastic segments are located on the outside of the glove and wearing it can be dangerous in other team-plays. The players, wearing protecting gloves of the said above design, can move their hand and fingers easily, however, the segments fixed onto the outside of the glove can be damaged easily, or fall off the glove, thus their endurance is short.

The patent specification No. DE 3516545 A1 describes a goalkeeper-glove with a double layer of materials on the upper part of the hand. The internal material layer is identical with the material used on the palm-side of the glove, the outer material layer being comprised of several elements placed aside each other, the outer side of the elements drifting apart when bending the finger. The inner side of the elements is stuck to the above said internal material of the glove's upper part, or fixed there by other technology, for example, a potential way of fixing, according to the specification, is making the material layer of the outer elements in the form of a single pressed layer with an added closing layer which is put on after fixing the outer layer on the internal layer. From the above said multi-layer material is then the pattern of the glove cut out. The elements itself of the outer material layer are solid. There are so called floating pads between the finger sheaths of the gloves, made of the palm-side material of the glove, to protect the fingers from traverse movements and injuries. The above specified goalkeeper-glove, too, can only be produced with a technology different from the one used in case of making traditional gloves. Since the outer material on the upper hand part of the glove is itself a solid material, the hand and the fingers of the goalkeeper can only be bent or moved at the points of cut-off and such points of cut-off are not always placed at the joints of the hand and the fingers, thus hindering and hardening hand movements. Consequently, the goalkeeper shall be insecure in catching the balls. The upper hand part of the glove described in the said above specification is made of a thick and rigid material, making the glove itself heavy, causing an unnecessary burden for the player.

OBJECTS AND STATEMENT OF THE INVENTION

It is therefore the object of the present invention to provide a finger-protecting glove-pad that eliminates the disadvantages of the presently known and commercially sold goalkeeper-gloves, and which is made in line with ergonomic requirements, safe and prevents accidents and the injuries of the hand's fingers, at the same time allowing the free movement of the hand and the fingers to the extent necessary in the game. The glove-pad can, in the traditional technology process of manufacture, be inserted into the finger sheaths of sports gloves made of leather and artificial leather. Thus the player

benefits from the advantageous features of leather, artificial leather, and rubber, the ball can be caught safely using the glove with finger-protecting pads.

Advantageously, the said invention is based on the recognition that the finger sheaths of the sports gloves should be equipped such with finger-protecting pads that fit to each finger, having at least seven points of bending – in line with the anatomical structure of the hand -, and the pads can only be bent freely to one direction, the palm-side of the glove. Bending to the opposite direction and traverse movements are eliminated. The material of the protecting pad is light and flexible, and at the same time transversally rigid. No additional force is needed to bend the pad. As embodied and broadly described herein, the present invention allows the required bending of the finger-protecting pad with the use of such elements the surface of which is manufactured to fit the shape of the fingers, and the said above elements are strung on a flexible but strong bearing material. In order to allow the free movement of the fingers, the lower side of the strung elements – the side that fits the fingers – has to be clipped at the angles under the line of the stringing. The walls of the elements where the said elements of the finger-protecting glove-pad are seated alongside each other are slightly convergent downward, making the finger-protecting glove-pad fit close the fingers in a hollow way to increase the prevention of tilting backwards. The elements of the finger-protecting glove-pad have lightening holes to reduce the weight of the goalkeeper-glove. The elements are strung on a bearing material and at the ends of the finger sheaths there are closing elements formed to fit the shape of the fingertips and the upper part of the hand. The bearing material is fixed in the said above closing elements and this way the closing elements press the elements of the finger-protecting glove-pad to fit closely to one another without any elongation.

Advantageously, the objective of the invention is accomplished by providing a finger-protecting glove-pad, especially for goalkeepers' gloves, which is a protecting strap fitted to the joints of the fingers, suitable for bending to one direction by bending the fingers, comprising of elements and closing elements, formed to fit the shape of the fingers,

strung on a flexible bearing material which is an elongation-free and strong tape or wire, and the said elements have internal slots and lightening holes and the connecting walls of the said elements are convergent downwards, with the lower side of the said elements formed in a hollow way to seat on the fingers, and the shape of said closing elements is formed to fit on the fingers, flattened on the ends, equipped with lightening holes and internal slots and wherein the flexible bearing material fixes the elements and the closing elements in a state pressed to one another, and wherein the said tape is fixed and abut endless in the closing elements.

BRIEF DESCRIPTION OF THE DRAWINGS

The following is a description by way of a preferred embodiment, reference being made to the following drawings, in which:

Figure 1. is the view of a finger-protecting glove-pad made in accordance with the invention in its basic state.

Figure 2. is the perspective view of the finger-protecting glove-pad in a bent state.

Figure 3. is the right side view of the finger-protecting glove-pad in a bent state.

Figure 4. is the perspective view of an element of the finger-protecting glove-pad.

Figure 5. is the front side view of an element of the finger-protecting glove-pad.

Figure 6. is the perspective view of an element of the finger-protecting glove-pad prepared by another way.

Figure 7. is the perspective view of the closing element of the finger-protecting glove-pad.

Figure 8. is the elevation view of the segment of a closing element.

Figure 9. is the perspective view of the finger-protecting glove-pad prepared by another way.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring now to Figure 1., there is shown the finger-protecting glove-pad in its basic state in which state it is clearly demonstrated the protective-pad being slightly departing from the lineal, being hollow in the longitudinal direction of the finger sheaths. The finger-protecting glove-pad comprises of the elements 1 and the closing elements 2. The elements 1 and the closing elements 2 are strung on a flexible bearing material 10 that can be a tape 10a or a wire. Applying any of the above bearing materials, it is important the said above bearing material being elongation-free, solid, with a flexible cross section and high disruptive strength.

The shape of the elements 1 and the closing elements 2 forming the finger-protecting glove-pad is decisive. In Figure 4. an element 1 is shown in perspective view where it is demonstrated that the lower side 3 – seated on the fingers – of the element has a hollow cross section to fit the shape of the finger. In Figure 5. it is shown that the connecting walls 4 of the elements are convergent downwards on both side departing from vertical reasonably by 1-2 degrees, the result of which is that the finger-protecting glove-pad, in its basis state, is hollow in its longitudinal direction. The element 1 has an internal slot 5 and a flat quadrangular hole 5a. Under the level of the flat quadrangular hole 5a the lower 1/3 part of the element 1 has a clipped angle 6 of 10-20 degrees. At the connecting points of the elements 1 the clipped angles 6 turn along the flexion line 7 and get closer to one another limiting the degree of bending the protective pad. In case of a degree of bending as shown in Figure 2-3. the number of the elements 1 has to be at least 8.

As shown in Figure 1-6. the elements 1 have lightening holes 8 located both in the sides and the top of the element 1 resulting in a light, but at the same time solid structure. Similarly, shape of the closing elements 2 – as shown in Figure 7. – is formed to fit the fingers, more particularly the lower side 9 of the said above closing elements is hollow and the parts at the fingertips and at the upper part of the hand are flattened. The upper arch of the finger-protecting glove-pad, comprising of the elements 1 and the closing elements 2, simulates the small increase in the arches of the fingers and the hand. The walls of the closing elements 2 where connected to the elements 1 have clipped angles 6, the level and degree of which is identical with the clipped angles 6 of the elements 1. The tape 10 is strung, folded back, and fixed by cementation in the flat quadrangular passing

hole of the internal slot 5 formed in the closing elements 2 – as shown in details in Figure 8.

Figure 6. illustrates element 1 in another possible way of forming the finger-protecting glove-pad, being different from above described design in its way of stringing the elements 1 on an endless wire. In the said way of providing the protective pad there are two passing holes 5b horizontally located inside the element 1 instead of the internal slot 5 formed in the element 1. The closing element 2 shown in Figure 9. is different from the above described closing element 2, the internal slot 5 substituted by a passing hole 5b alongside the closing element 2 ending at a cross direction chase 11 formed in the closing element 2. Pulling in the wire starts at one of the passing holes 5b of one of the closing elements 2, then the wire passes the passing holes 5b of the elements 1 on the same side, continued through the passing hole 5b of the other closing element 2 on the same side, followed by the other passing hole 5b of the said closing element 2, then passing through again the elements 1 and the other passing hole 5b of the closing element of the starting position where the wire is abut endless in the cross direction chase 11 using a binder prepared for this purpose.

The finger-protecting glove-pad comprising of the elements 1 strung on a tape or a wire can be inserted in the finger sheaths – except for the finger sheath of the thumb – of the goalkeeper-gloves manufactured by the traditional method. The finger-protecting glove-pad in its basic position has a hollow form fitting the arc of the fingers and, at the same time, the cross section of the protective pad is hollow, as well, to fit the shape of the fingers. The shape of the elements 1 and the closing elements 2, together with the quality and endless stringing of the flexible bearing material guarantee the bending of the protective pad to a great extent without moving off the elements 1 alongside the tape 10a or the wire. When bending the fingers, the top of the elements 1 drifts apart from the neighbouring elements, but they cannot move off at the flexion lines 7 on the level of stringing.

The goalkeeper-gloves equipped with the finger-protecting glove-pad following the present invention are comfortable and eliminate the disadvantages of known and

commercially sold gloves. The protective pad inserted into the glove does not hinder the free movement of the hand, the player can even ball fists, and, at the same time, the protective pad can prevent hand injuries safely. Advantageously, its shape fits the fingers, thus it cannot slide off the fingers in cross direction. As the protective pad has a hollow longitudinal shape, it prevents effectively the fingers tilting backwards. The finger-protecting glove-pad can be inserted into the traditional gloves made for goalkeepers, therefore no special technology of manufacture is needed.

CLAIMS

1. The subject of the present invention is a finger-protecting glove-pad, especially for goalkeepers' gloves, which is a protecting strap fitted to the joints of the fingers, suitable for bending to one direction by bending the fingers, wherein comprising of elements (1) and closing elements (2), formed to fit the shape of the fingers, strung on a flexible bearing material (10).
2. A finger-protecting glove-pad as defined in claim 1., wherein said flexible bearing material (10) being an elongation-free and strong tape (10a) or wire.
3. A finger-protecting glove-pad as defined in claim 1., wherein said elements (1) have internal slots (5) and lightening holes (8) and the connecting walls (4) of the said elements are convergent downwards, with the lower side (3) of the said elements formed in a hollow way to seat on the fingers.
4. A finger-protecting glove-pad as defined in claim 1., wherein the shape of said closing elements (2) is formed to fit on the fingers, flattened on the ends, equipped with lightening holes (8) and internal slots (5), and wherein the flexible bearing material (10) fixes the elements (1) and the closing elements (2) in a state pressed to one another, and wherein the said tape is fixed and abut endless in the closing elements (2).

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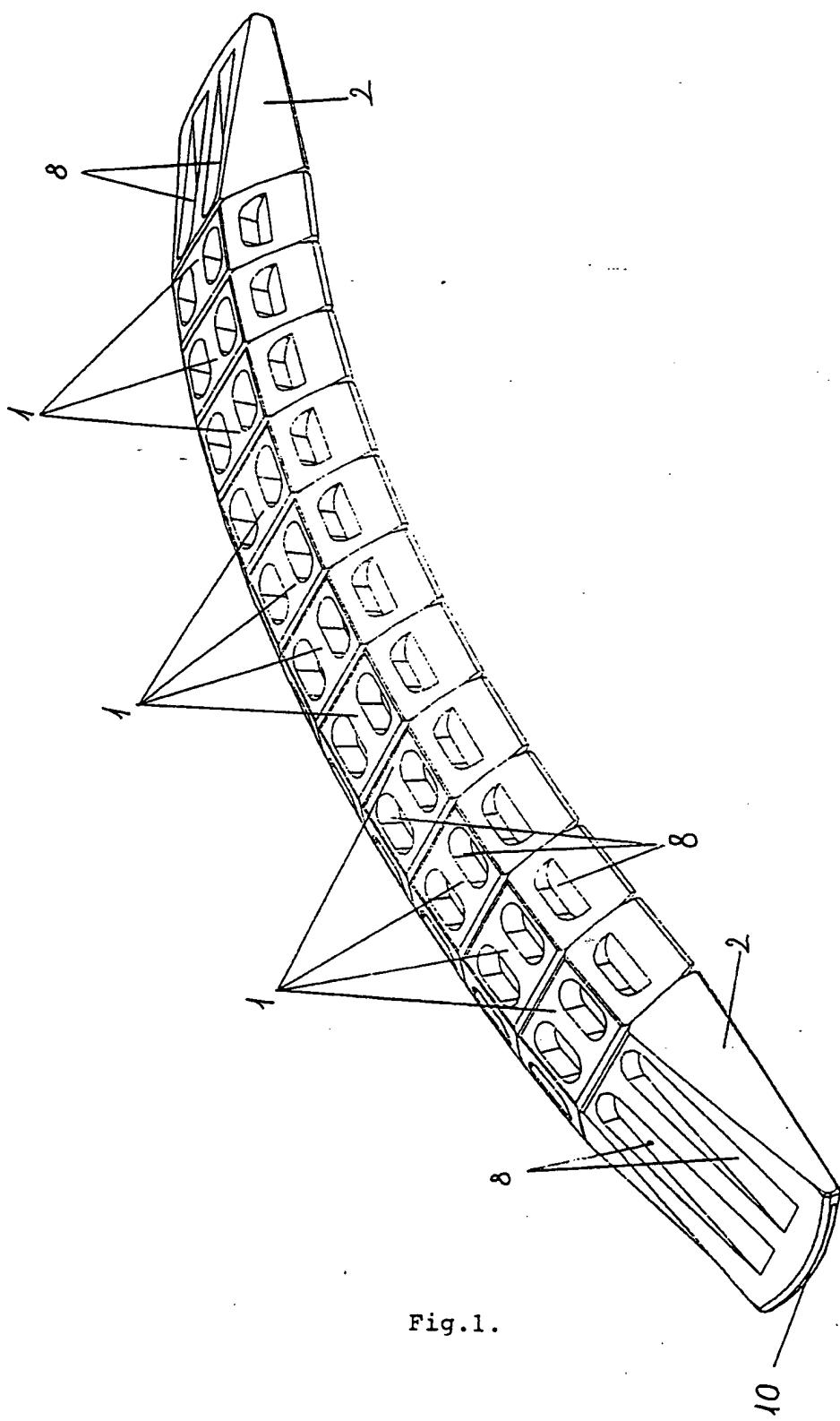


Fig.1.

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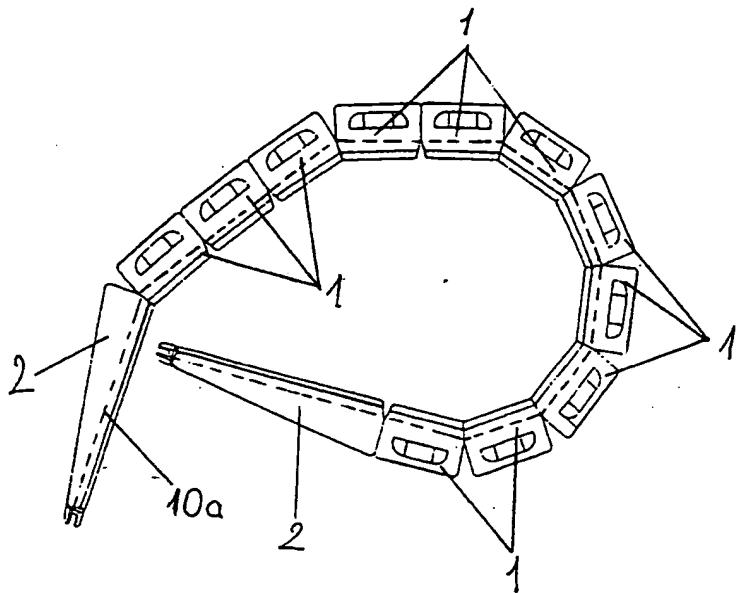


Fig.2

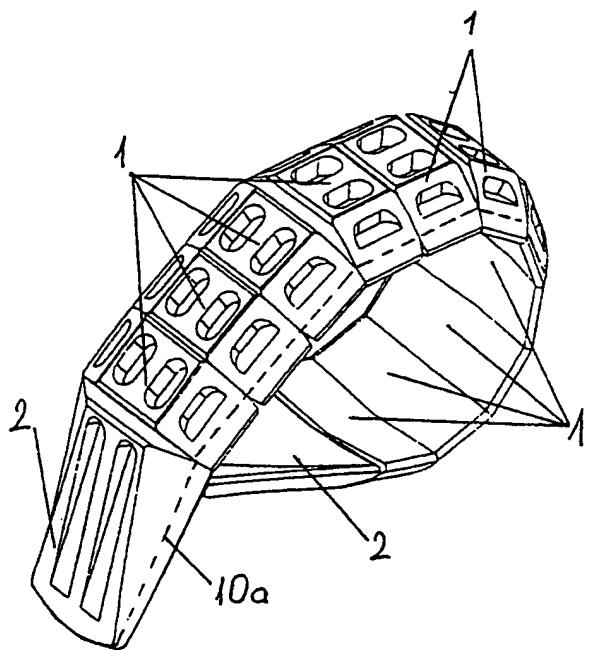


Fig.3

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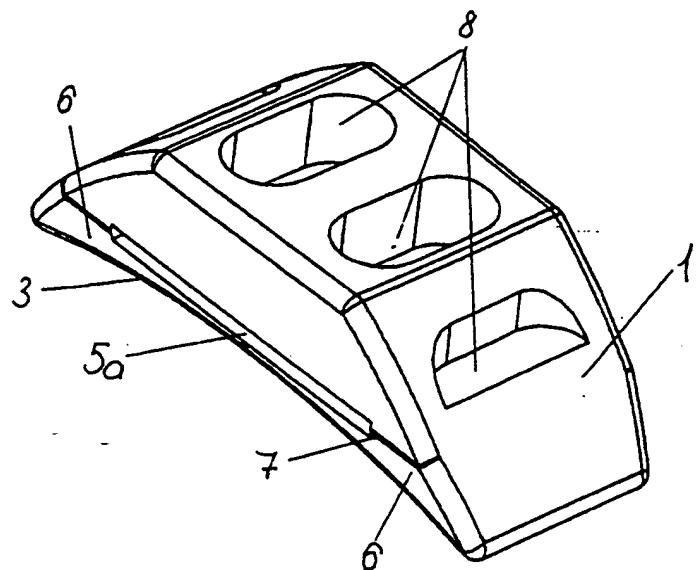


Fig.4

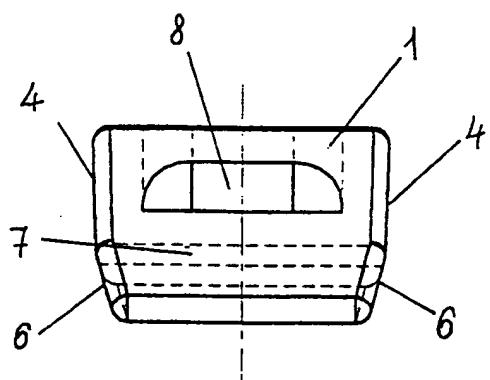


Fig.5

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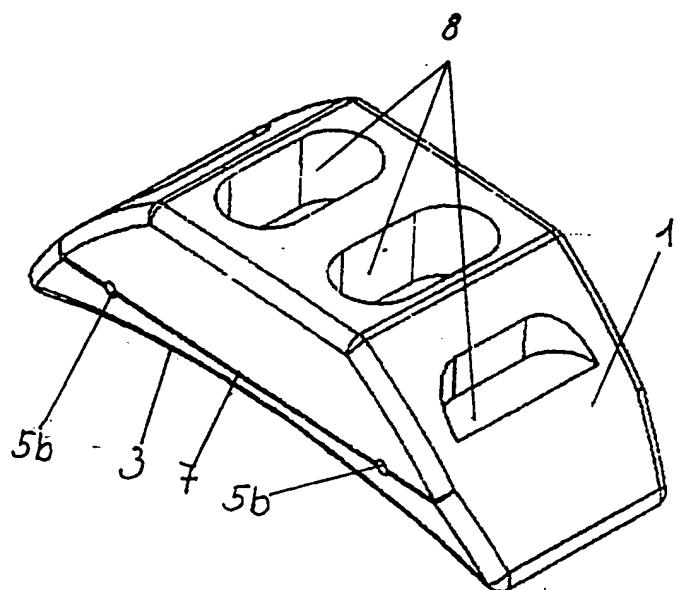


Fig.6

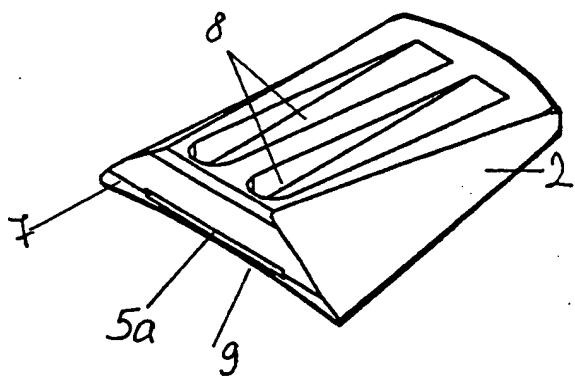


Fig.7

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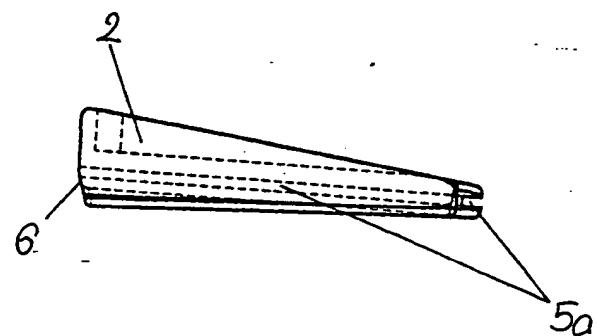


Fig.8

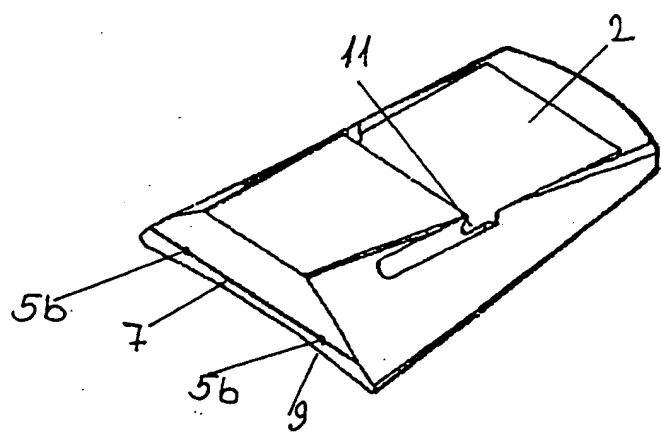


Fig.9

INTERNATIONAL SEARCH REPORT

Int. Application No.
PCT/RU 00/00057

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A41D19/015 A41D13/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A41D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO-BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 311 929 A (DUNLOP SLAZENGER GROUP LIMITED) 15 October 1997 (1997-10-15) page 2, paragraph 4 -page 4, paragraph 4 page 6, paragraph 1 -page 8, paragraph 1; claims 1-3,17; figures 1,2 ----	1
A	US 1 509 801 A (D. B. WALTERS) 23 September 1924 (1924-09-23) the whole document ----	1
A	US 4 766 612 A (E. E. PATTON) 30 August 1988 (1988-08-30) column 2, line 22 -column 4, line 21; figures 1-16 ----	1,2 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

24 November 2000

Date of mailing of the international search report

04/12/2000

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

Information on patent family members

Inten. Appl. No.

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